

PURCHASING AND INQUIRING METHOD THROUGH LABEL CAPTURING CELLULAR DEVICES

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention generally relates to a method for capturing, analyzing, and deciphering a label, such as a bar code label, exchanging information with a remote data bank, and effecting a transaction based on such information. More particularly, this invention relates to a method of processing bar code labels by means of a cellular device equipped with video capturing means to capture an image, natively processing the captured image, identifying the captured image as a standard bar code label, exchanging information pertaining to the label with a remote server, displaying remote server's prearranged audiovisual data on the cellular device display screen, and allowing the user to realize a transaction based on the displayed data.

[0003] 2. Description of the Related Art

[0004] Inventory management has greatly benefited by the incorporation of bar code labels that have become ubiquitous in almost all products and many services placed in the stream of commerce. Bar code labels are used today to uniquely identify a particular product and match it, through a database, with its characteristics. Bar code label technology enables members of the distribution chain, from manufacturer to retailer, among other things to monitor inventory levels, determine reordering points, allow for innovations such as just-in-time manufacturing and supply, and raise the general level of efficiency of their operations. Bar code labels are critical elements for conducting business in today's global economy. Bar code labels are used not only to identify discrete products, sold in units or multiples thereof, but also on products sold by other measuring units, such as by weight, by length, by time, by volume, or by a combination thereof.

[0005] Since its inception bar code label technology has evolved as well, and the name today encompasses not only the original intercalated parallel bars of varying widths arranged at various distances from one another but a variety of graphic arrangements, that are well known to the person skilled in the art, that can be illuminated with a coherent light source, and its reflection captured and deciphered as bar code labels. Bar code technology encompasses graphic representations that encode data to be scanned, the printing, technologies that produce machine-readable symbols, the scanners and decoders that capture images of the graphic representations and convert them to computer-compatible digital data, and the verifiers that validate graphic representation quality.

[0006] The utilization of bar code label technology has been expanded to other users beyond the distribution chain, including corporate and individual users who desire to tag property for inventory purposes. Bar code labels are used not only on products but also in a myriad of forms such as, but not limited to, printed lists, newspaper and brochure advertisements, and web sites.

[0007] Radio Frequency ("RF") labels have recently appeared on products to add a functionality that bar code labels lack, namely the remote reading of products so

labeled. RF labels transmit a unique code that can be read at a distance by a RF receivers thus greatly reducing the need to physically conduct an inventory of each item in stock. In contrast to RF labels, a person or machine must individually scan bar code labeled products at short distances.

[0008] Until today the benefits of inventory labels, whether bar code or RF labels, benefited members of the distribution chain however systematically excluded the ultimate consumer of the product, particularly the retail consumer. This exclusion is motivated primarily because standard label capturing devices are costly; they lack portability, and the devices that could capture labels could not provide useful options for customer action, such as realize a purchase. The solutions so far implemented by retailers are costly and inefficient and invariably include a plurality of manned check out counters, equipped with fixed label capturing scanners, usually backlogged by long lines of customers attempting to conduct all inquiry or a purchase. This part of the business, well known by the person skilled in the art, is known as front desk. The cost of managing the front desk can be a significant part of the cost of running a business and it is passed along to the final consumer. A method that could reduce or eliminate front desk operations will not only reduce overall business costs but could integrate seamlessly the customer into the manufacturing, inventory management, and distribution chain.

[0009] Another technology that emerged recently is cellular telephony. The rapid absorption by the general public of cellular telephony opened a new era to allow persons to communicate with one another without depending on a physical, landed, connection. Recent developments in cellular telephony, primarily due to the development of digital signal processing circuitry, enabled cellular telephones to transmit not only voice but also data.

[0010] Today, a variety of mobile station devices ("MSD") incorporate cellular telephony. The MSD, used in these communications, have proliferated to include a plethora of artifacts including, as an example and not as an exhaustive list, telephones, electronic organizers, personal digital assistants, internet appliances, wristwatches, combinations of the previous devices, and others well known to the person skilled in the art. This data transmission capability permits today's MSD users to access internet services and interchange data with remote computer servers.

[0011] Another recent development in MSD came available with the incorporation of video camera devices integrated into MSD. These MSD can capture an image of whatever is located within the focal point of the camera lens; process the captured image including compressing it, and transmit it in a standard format through the cellular network to another MSD or through the network to another device, such as a computer. To process a captured image cellular telephones have built in native processing capabilities allowing the MSD to store software code that can process data in response to user input without external help from the cellular network.

[0012] Some of today's cellular transmission protocols include, as examples but not as an exhaustive list, Global System for Mobile (GSM), Generalized Packet Radio System (GPRS), High Speed Circuit Switched Data (HSCSD), Bluetooth, and Wireless Application Protocol (WAP). These transmission protocols include a channel of communication,